

1. Find  $f(-3)$  for each function below.

a)  $f(x) = -2x + 3$

b)  $f(x) = |x^2 - 12|$

c)  $f(x) = \sqrt[3]{9x} + 2$

d)  $f(x) = \frac{1}{2}x + 2$

2. If  $f(x) = 2x - 3$  for each function below calculate the possible values for  $x$ .

a)  $f(x) = 13$

b)  $f(x) = -3$

3. Copy and complete these generic rectangles on your paper. Then write the area of each rectangle as a product of the length and width and as a sum of the parts.

a. 

$13x$	$-21$

b. 

$x$	
$-5$	
$x$	$+3$

c. 

$3x$		
$-2$		
$x$	$+4$	

d. 

$16x^2$	$-24x$	$4$
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4. Give the following information write the equation of the line.

a) Goes through the points (1,3) and (4, 7).

i. Name another two points on this line.

b) Find the equation of the line based on the table.

$x$	3	-2	5	12
$y$	4	-11	10	31

c) Has a slope of  $\frac{-2}{5}$  and goes through the point (-1,15)

5. Solve each equation.

a)  $2(x + 1) + 3 = 3(x - 1)$

b)  $(x + 2)(x + 3) = (x + 1)(x + 5)$

c)  $|3x + 4| = -1$

d)  $|5x + 1| = 12$

6. Simplify

a)  $(3x^2y)(5x)$

b)  $(x^2y^3)(x^{-2}y^{-2})$

c)  $(2x^{-1})^3$

d)  $(x^2)(x^2y^3)$

e)

f)  $\frac{x^3y^4}{x^2y^3}(-3x^4)$

g)  $(2x)^3$

h)  $(5x^3)(-3x^{-2})$

i)  $(4p^2q)^3$

j)

k)  $\frac{\frac{3m^7}{m^{-1}}y^1}{15x^6y^8}$

7. Solve each of the following equations for the indicated variable. Record your work.

a) Solve for  $x$ :  $y = -2x + 5$

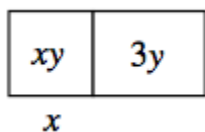
b) Solve for  $p$ :  $m = 7 - 3(p - m)$

c) Solve for  $y$ :  $x^2 + 4y = (x + 6)(x - 2)$

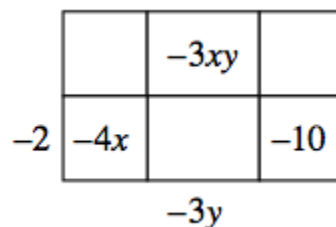
d) Solve for  $q$ :  $4(q - 8) = 7q + 5$

8. Copy each of the generic rectangles below and fill in the missing dimensions and areas. Then write the entire area as a product and as a sum.

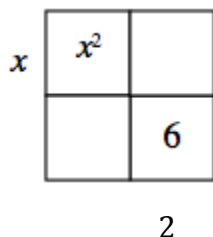
a.



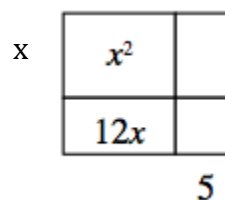
b.



c.



d.



9. Use a generic rectangle to multiply the following expressions. Write each solution both as a sum and as a product. [Homework Help](#) 

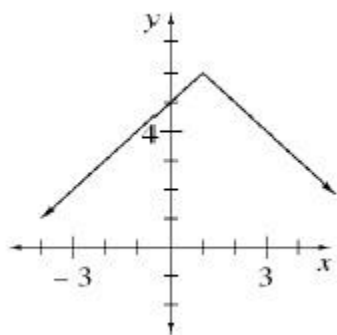
a.  $(2x + 5)(x + 6)$

b.  $(m - 3)(3m + 5)$

c.  $(12x + 1)(x^2 - 5)$

d.  $(3 - 5y)(2 + y)$

10. Given the following graphs answer the associated questions.



i. Is the following a Function? Y or N

ii. Determine the Domain:

iii. Determine the Range: